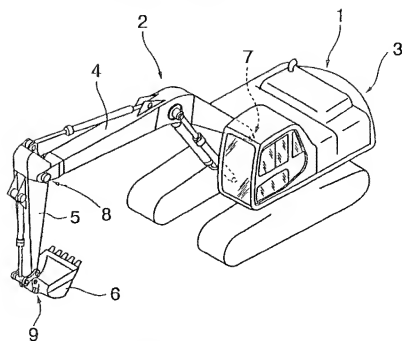
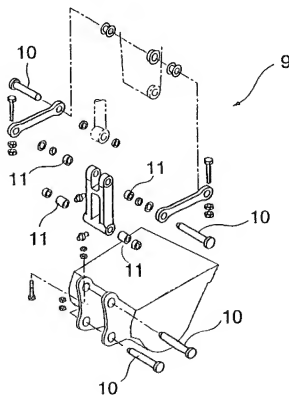
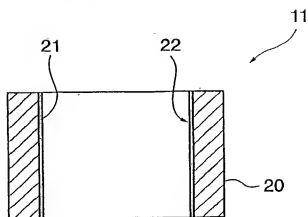
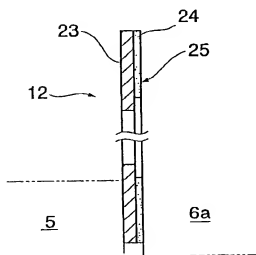


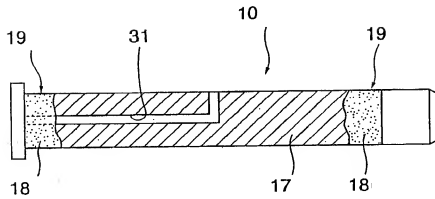
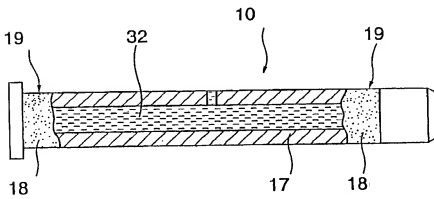
1/29

FIG. 1A**FIG. 1B**

3/29

FIG. 3A**FIG. 3B**

5/29

FIG. 5A**FIG. 5B**

6/29

FIG. 6A

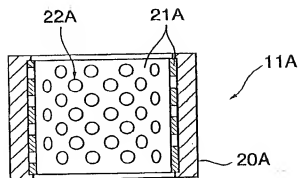


FIG. 6B

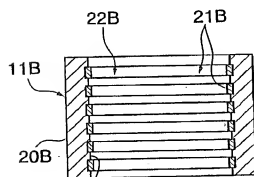


FIG. 6C

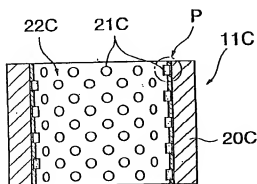


FIG. 6D

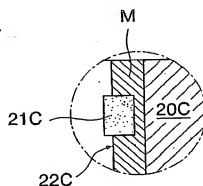
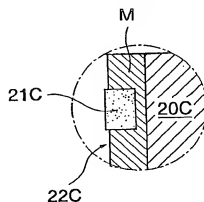


FIG. 6D'



7/29

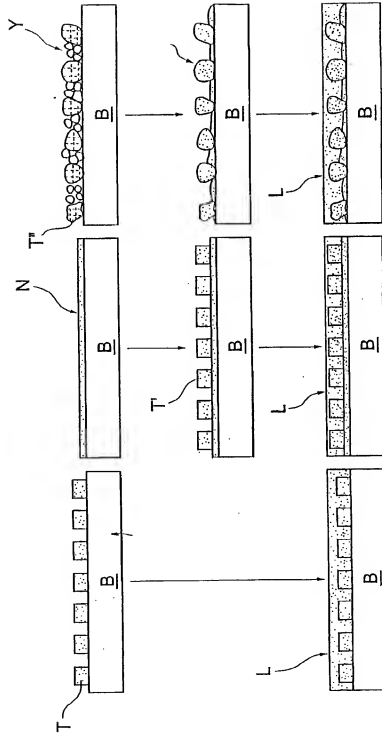


FIG. 7C

FIG. 7B

FIG. 7A

8/29

FIG. 8A

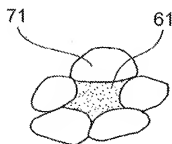
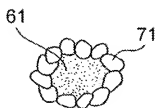
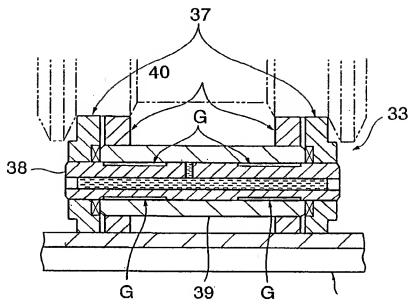
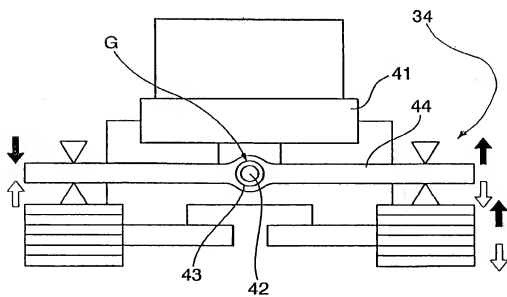


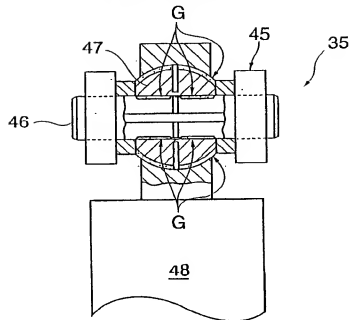
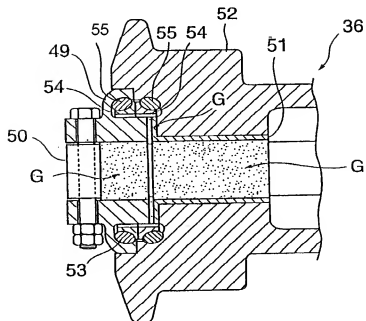
FIG. 8B



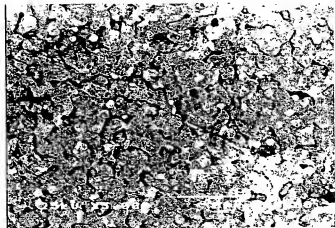
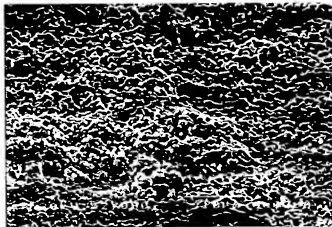
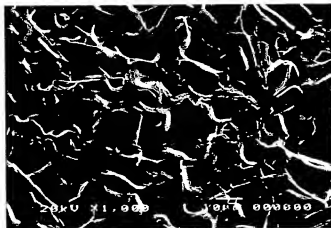
9/29

FIG. 9A**FIG. 9B**

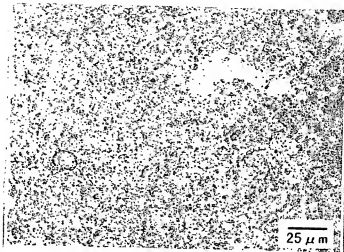
10/29

FIG. 10A**FIG. 10B**

11/29

FIG. 11A*FIG. 11B**FIG. 11C*

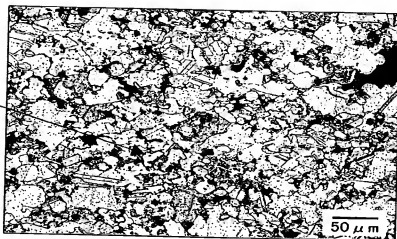
12/29

FIG. 12A**FIG. 12B**

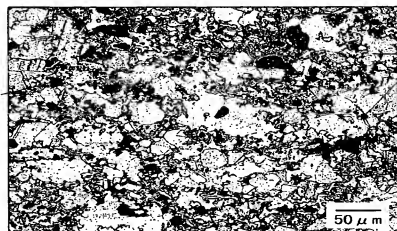
13/29

FIG. 13A

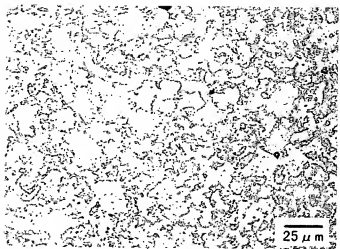
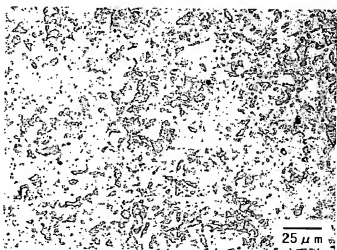
Hv120

**FIG. 13B**

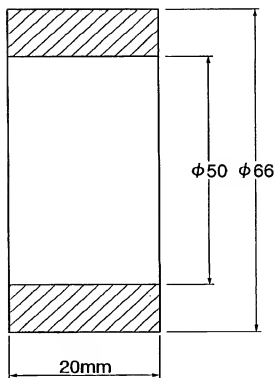
Hv145



14/29

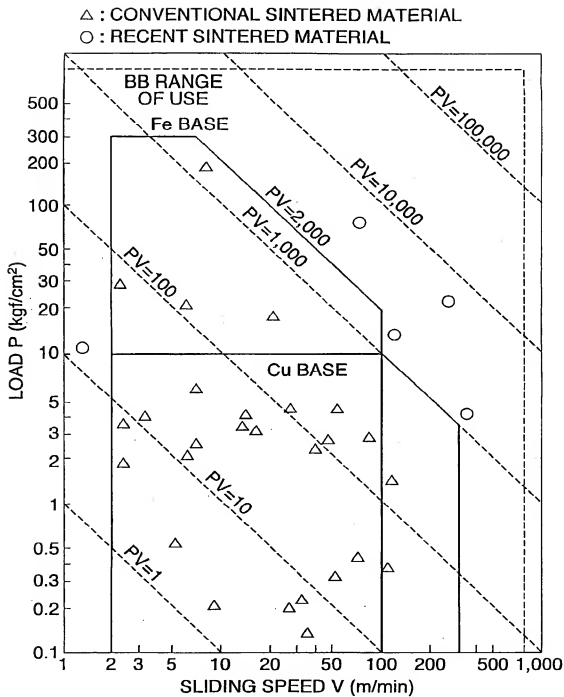
FIG. 14A**FIG. 14B**

15/29

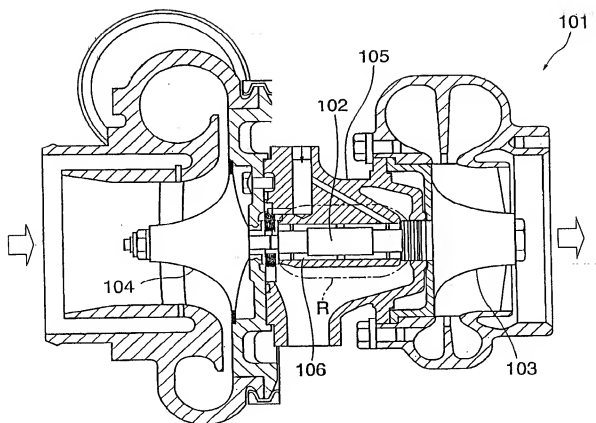
FIG. 15

16/29

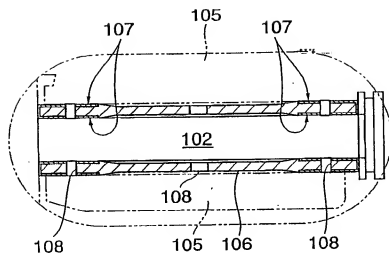
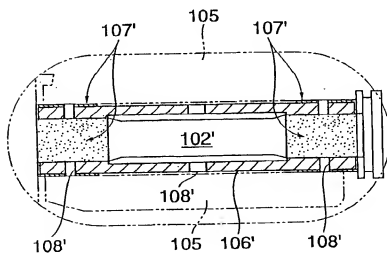
FIG. 16



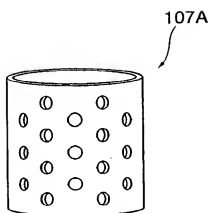
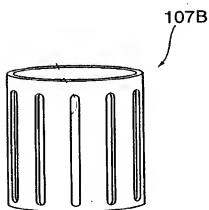
17/29

FIG. 17

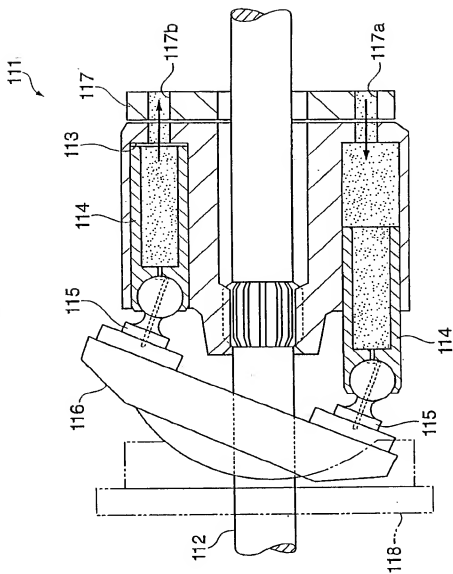
18/29

FIG. 18A**FIG. 18B**

19/29

FIG. 19A**FIG. 19B**

20/29

FIG. 20

21/29

FIG. 21A

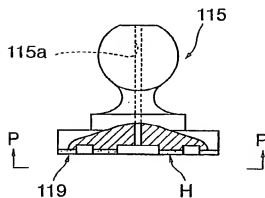


FIG. 21B

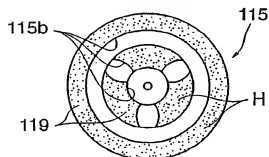
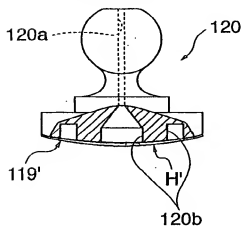
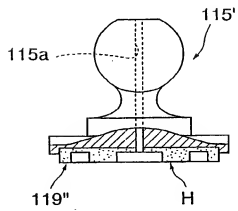
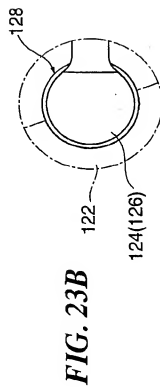
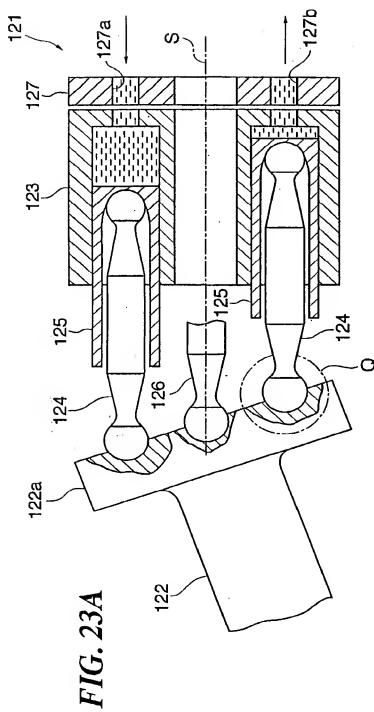


FIG. 21C

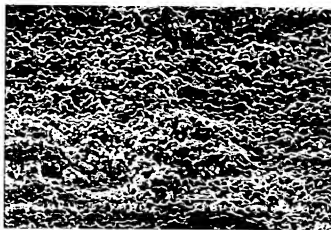
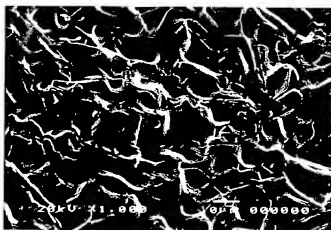


22/29

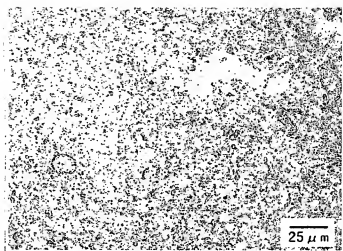
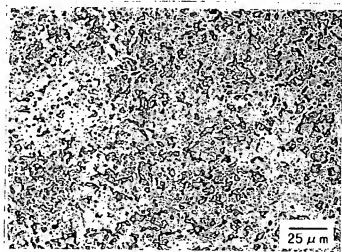
FIG. 22



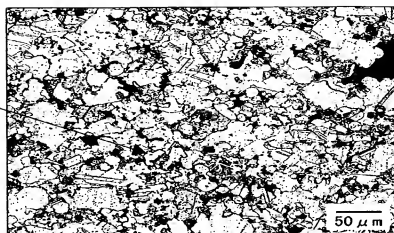
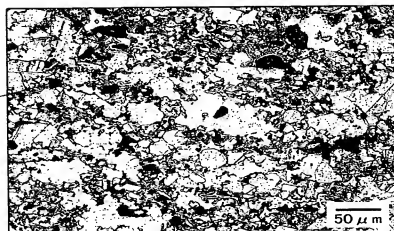
24/29

FIG. 24A*FIG. 24B**FIG. 24C*

25/29

FIG. 25A**FIG. 25B**

26/29

FIG. 26A*FIG. 26B*

27/29

FIG. 27A

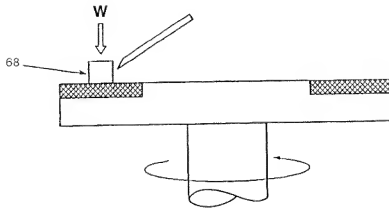


FIG. 27B

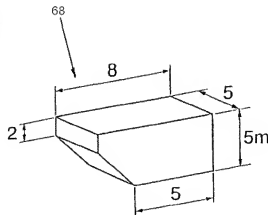


FIG. 27C

CONDITION
 REFERENCE : CARBURIZED AND QUENCHED SCM420
 SURFACE HARDNESS: HRC60~62
 SURFACE ROUGHNESS: UNDER 3S
 LUBRICATING OIL: #E10
 AMOUNT: 5cm³/min(DROP)
 TEMPERATURE: 60°C
 SLIDING SPEED: 10m/sec
 BEARING STRESS: Max800kgf/cm²

28/29

FIG. 28A

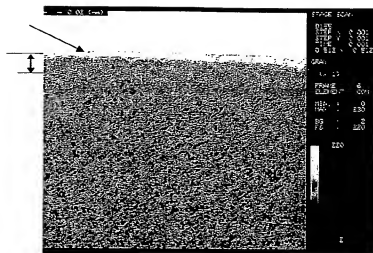
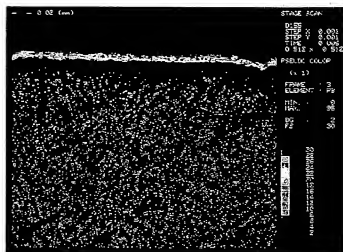
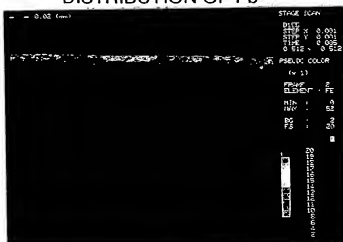


FIG. 28B



DISTRIBUTION OF Pb

FIG. 28C



DISTRIBUTION OF Fe

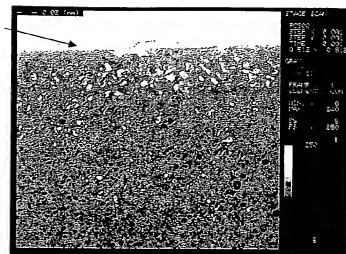


FIG. 29A

COMPOSITION

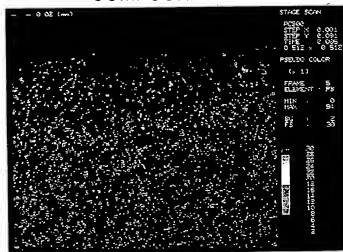


FIG. 29B

DISTRIBUTION OF Pb



FIG. 29C

DISTRIBUTION OF S